

## **AMENDMENTS TO THE CLAIMS**

***Please amend the claims without prejudice or disclaimer to read as follows. This listing of claims will replace all prior listings and versions of claims.***

1 (previously presented). A method of remotely maintaining a client computer from a server computer, wherein the client computer comprises a plurality of attributes, a network interface card (NIC) and a local operating system, the method comprising the steps of:

- providing a preboot attribute determination application from the server computer to the client computer via the network interface card prior to said client computer loading said local operating system;
- determining said plurality of attributes of said client computer with the preboot attribute determination application executing on said client computer prior to said client computer loading said local operating system;
- receiving said plurality of attributes from said client computer at the server computer;
- automatically selecting one of a plurality of management instruction sets stored on said server computer for said client computer, wherein said one of said plurality of management instruction sets is selected by said server computer based upon said plurality of attributes of said client computer determined by said preboot attribute determination program; and
- providing said one of said plurality of management instructions from said server computer to said client computer to thereby allow said client computer to execute said one of said plurality of management instruction sets at said client computer prior to loading said local operating system.

2 (cancelled).

3 (previously presented). The method of claim 1 wherein said plurality of attributes comprise hardware attributes.

- 4 (previously presented). The method of claim 1 wherein said plurality of attributes comprise firmware attributes.
- 5 (previously presented). The method of claim 1 wherein said plurality of attributes comprise desktop management interface (DMI) attributes.
- 6 (previously presented). The method of claim 1 wherein said plurality of attributes comprise PCI attributes.
- 7 (previously presented). The method of claim 1 wherein said plurality of attributes comprise SMBIOS attributes.
- 8 (previously presented). The method of claim 1 wherein said plurality of attributes comprise at least one of the group consisting of system manufacturer, model, motherboard type, bus information, and adapter information.
- 9 (previously presented). The method of claim 9 wherein said adapter information comprises information about adapter orientation within a system bus of said client computer.
- 10 (previously presented). The method of claim 1 wherein said client computer comprises a file system and wherein the method further comprises the step of verifying said file system of said client computer.
- 11 (original). The method of claim 10 wherein said step of verifying said file system comprises checking the files in said file system against an index file.
- 12 (original). The method of claim 11 wherein said index file is retained on said server computer and wherein said step of verifying said file system is executed on said server computer.

- 13 (original). The method of claim 11 wherein said index file is retained on said client computer and wherein said step of verifying said file system is executed on said client computer.
- 14 (original). The method of claim 11 wherein said index file is compressed.
- 15 (original). The method of claim 11 wherein files missing from said file system are retrieved from said server computer.
- 16 (original). The method of claim 11 wherein said index file corresponds to said attributes of said client computer.
- 17 (original). The method of claim 15 wherein said files are accessed using the PXE protocol.
- 18 (previously presented). The method of claim 1 wherein said contacting step is performed in accordance with the PXE protocol.
- 19 (original). The method of claim 1 further comprising the step of mounting a remote drive from said server computer to said client computer.
- 20 (original). The method of claim 19 wherein said step of executing said management instructions comprises accessing data files on said remote drive.
- 21 (previously presented). The method of claim 1 wherein said client computer comprises a registry file and wherein the method further comprises the step of verifying said registry file of said client computer.
- 22 (previously presented). The method of claim 21 wherein said step of verifying said registry file comprises checking entries in said registry file against a registry index file.

23 (previously presented). The method of claim 21 wherein said registry index file is retained on said server computer and wherein said step of verifying said registry file is executed on said server computer.

24 (original). The method of claim 21 wherein said registry index file is retained on said client computer and wherein said step of verifying said registry file is executed on said client computer.

25 (previously presented). The method of claim 21 wherein said registry index file corresponds to at least a portion of said plurality of attributes of said client computer.

26 – 41 (cancelled).

42 (previously presented). A method of remotely managing a client computer having a local operating system, the method comprising the steps of:  
providing an attribute determination program from a server in response to a request from said client computer;  
executing the attribute determination program on the client computer to identify a plurality of attributes of said client computer prior to said client computer loading the local operating system and to provide said attributes to said server;  
receiving said attributes from said attribute determination program at said server;  
automatically selecting one of a plurality of management instructions for said client computer at said server as a function of said attributes obtained from said attribute determination program; and  
providing said one of said plurality of management instructions from said server to said client computer prior to booting said local operating system of client computer.

43 (original). The method of claim 42 wherein said attributes comprise hardware attributes.

- 44 (original). The method of claim 43 wherein said attributes comprise firmware attributes.
- 45 (previously presented). The method of claim 42 further comprising the step of executing said one of said plurality of management instructions at said client computer.
- 46 (previously presented). The method of claim 45 wherein said one of said plurality of management instructions comprises at least one of a plurality of scripts.
- 47 (original). The method of claim 46 wherein at least one of said plurality of scripts is a REXX script.
- 48 (original). The method of claim 46 wherein at least one of said plurality of scripts is a PERL script.
- 49 (previously presented). The method of claim 46 wherein at least one of said plurality of scripts is a batch script.
- 50 (original). The method of claim 46 wherein each of said plurality of scripts is associated with a workstation object at said server, wherein said workstation object is associated with said client computer.
- 51 (original). The method of claim 46 wherein each script comprises instructions for executing one or more tasks in response to the occurrence of at least one event.
- 52 (original). The method of claim 51 wherein at least one of said templates is associated with said script at said server through an event object.
- 53 (original). The method of claim 51 wherein at least one of said templates is associated with said script at said server via a workstation group object.
- 54 (original). The method of claim 51 wherein at least one of said templates is associated with said script at said server via said attributes of said client computer.

- 55 (original). The method of claim 54 wherein said attributes comprise hardware attributes.
- 56 (original). The method of claim 55 wherein said attributes comprise at least one of the group consisting of manufacturer, model, motherboard type, bus information and adapter information.
- 57 (original). The method of claim 55 wherein said attributes comprise PCI attributes.
- 58 (original). The method of claim 55 wherein said attributes are DMI attributes.
- 59 (original). The method of claim 55 wherein said attributes are SMBIOS attributes.
- 60 (previously presented). The method of claim 54 wherein said providing step and said receiving step are in accordance with the PXE protocol.
- 61 (previously presented). The method of claim 56 wherein said providing step and said receiving step are in accordance with the PXE protocol.
- 62 (currently amended). The method of claim 42 wherein said client computer comprises a file system and wherein said ~~step of managing said client computer~~ selecting step comprises verifying said file system of said client computer.
- 63 (original). The method of claim 62 wherein said step of verifying said file system comprises checking the files in said file system against an index file.
- 64 (original). The method of claim 63 wherein said index file is retained on said server computer and wherein said step of verifying said file system is executed on said server computer.
- 65 (original). The method of claim 63 wherein said index file is retained on said client computer and wherein said step of verifying said file system is executed on said client computer.

66 (previously presented). The method of claim 63 wherein said index file is compressed.

67 (original). The method of claim 63 wherein files missing from said file system are retrieved from said server computer.

68 (original). The method of claim 63 wherein said index file corresponds to said attributes of said client computer.

69 (original). The method of claim 67 wherein said files are retrieved using the PXE TFTP protocol.

70 (currently amended). The method of claim 42 wherein said client computer comprises a registry file and wherein said ~~step of managing said client computer~~ selecting step comprises verifying said registry file of said client computer.

71 (original). The method of claim 70 wherein said step of verifying said registry file comprises checking entries in said registry file against a registry index file.

72 (original). The method of claim 71 wherein said registry index file is retained on said server computer and wherein said step of verifying said registry file is executed on said server computer.

73 (original). The method of claim 71 wherein said registry index file is retained on said client computer and wherein said step of verifying said registry file is executed on said client computer.

74 (original). The method of claim 71 wherein said registry index file corresponds to said attributes of said client computer.

75 (original). The method of claim 45 further comprising the step of mounting a remote volume of said server computer on said client computer.

76 (original). The method of claim 75 wherein said step of executing said management instructions comprises accessing files stored on said remote volume.

77 (original). The method of claim 76 wherein said client computer comprises a file system and wherein said step of managing said client computer comprises verifying said file system of said client computer.

78 (original). The method of claim 77 wherein files missing from said file system are retrieved from said remote volume.

79 (original). The method of claim 76 wherein said step of verifying said file system comprises checking the files in said file system against an index file.

80 (original). A computer readable medium having instructions stored thereon for executing the method of claim 42.

81 (original). A computer readable medium having instructions stored thereon for executing the method of claim 44.

82 (original). A computer readable medium having instructions stored thereon for executing the method of claim 49.

83 (original). A computer readable medium having instructions stored thereon for executing the method of claim 56.

84 (original). A computer readable medium having instructions stored thereon for executing the method of claim 57.

85 (original). A computer readable medium having instructions stored thereon for executing the method of claim 59.

86 (original). A computer readable medium having instructions stored thereon for executing the method of claim 68.

87 (original). A computer readable medium having instructions stored thereon for executing the method of claim 70.



88 (original). A computer readable medium having instructions stored thereon for executing the method of claim 74.

89 (original). A computer readable medium having instructions stored thereon for executing the method of claim 76.

90 (currently amended). A system for managing a client computer over a network, the client computer having a plurality of client computer attributes and a local operating system, the system comprising:

- a database configured to store a plurality of template records, each of said plurality of template records comprising a set of template attributes and a corresponding one of a plurality of configuration script scripts; and

- a server application configured to receive a request from said client computer via said network, to provide a preboot attribute determination program to the client computer in response to the request, to receive said client computer attributes from the preboot attribute determination program executing on the client computer prior to said client computer booting said local operating system, to associate said client computer with at least one of said template records by comparing said client computer attributes to said template attributes, and to ~~provide~~ select the one of the plurality of configuration script scripts corresponding to the associated at least one of said template records to be provided to said client computer for execution on said client computer prior to booting a local operating system.

91-92 (cancelled).

93 (previously presented). The system of claim 90 further comprising event objects associated with at least one of said template records, wherein said event objects are associated with said configuration scripts such that said configuration scripts are provided to said client computers upon the occurrence of an event.

94 (original). The system of claim 93 wherein said event comprises the booting of one of said client computers.

95 (original). The system of claim 93 wherein said database is a directory services application.

96 (previously presented). The system of claim 95 wherein said directory services application is a Netware Directory Services™ directory.

97 (previously presented). The system of claim 95 wherein said directory services application is a Microsoft Active Directory™ directory.

98 (original). The system of claim 90 wherein said records of information comprise attributes of said client computers.

99 (original). The system of claim 98 wherein said attributes comprise DMI attributes.

100 (original). The system of claim 98 wherein said attributes comprise PCI attributes.

101 (original). The system of claim 98 wherein said attributes comprise SMBIOS attributes.

102-104 (cancelled).

105 (currently amended). A system for administrating a ~~plurality of client computers~~ client computer over a network, the system comprising:

~~means for receiving a boot message from one of said plurality of client computers;~~

~~means for determining attributes of said one of said plurality of client computers prior to booting a local operating system of said one of said plurality of client computers;~~

~~means for associating said attributes with an entry in a database to determine administration steps to be performed on said one of said plurality of client computers; and~~

~~means for providing said administrative steps to said one of said plurality of client computers for execution prior to booting the local operating system of said one of said plurality of client computers~~

means for providing a preboot attribute determination application from a server computer to the client computer via the network interface card prior to said client computer loading said local operating system;

means for determining said plurality of attributes of said client computer with the preboot attribute determination application executing on said client computer prior to said client computer loading said local operating system;

means for receiving said plurality of attributes from said client computer at the server computer;

means for automatically selecting one of a plurality of management instruction sets stored on said server computer for said client computer, wherein said one of said plurality of management instruction sets is selected by said server computer based upon said plurality of attributes of said client computer determined by said preboot attribute determination program; and

means for providing said one of said plurality of management instructions from said server computer to said client computer to thereby allow said client computer to execute said one of said plurality of management instruction sets at said client computer prior to loading said local operating system.

106 (cancelled).

107 (currently amended). The system of claim 105 wherein said determining means comprises means for querying hardware and software attributes of ~~one of said plurality of client computers~~ said client computer.

108 (currently amended). The system of claim 107 wherein said querying means comprises means for querying DMI parameters of ~~one of said plurality of client computers~~ said client computer.

109 (currently amended). The system of claim 107 wherein said querying means comprises means for querying PCI parameters of ~~one of said plurality of client computers~~ said client computer.

110 (currently amended). The system of claim 107 wherein said querying means comprises means for querying SMBIOS parameters of ~~one of said plurality of client computers~~ said client computer.

111 (currently amended). A method of maintaining files on a client computer having a local operating system and a network interface card, the method comprising the steps of:  
receiving a boot request at a server computer from said client computer;  
providing a response to said boot request from said server to said client via said network interface card, wherein said response comprises an attribute determination ~~a file checking~~ program configured to be executed on said client computer prior to booting said local operating system, wherein the attribute determination program is configured to prepare an index of files present on said client computer;  
receiving ~~an~~ the index of files present on said client computer from said attribute determination ~~file checking~~ program ~~without~~ prior to booting said local operating system;  
automatically selecting a set of instructions at said server based upon said index of files prepared by the attribute determination program,  
wherein the selected set of instructions comprises instructions for  
providing updated files from said server to said client computer based upon said index[[:]]and for instructing said client computer to boot said local operating system after said updated files are received from said server; and  
executing the set of selected instructions to thereby update the files on the client computer prior to booting the local operating system on the client computer.

112 (previously presented). The method of claim 111 comprising the step of automatically mounting a volume of said server to said client computer.

113 (previously presented). The method of claim 112 wherein said volume is mounted via a network stack located in a ROM on said client computer.

114 (previously presented). The method of claim 113 wherein said ROM is a ROM on a network interface card of said client computer.

115 (previously presented). The method of claim 114 wherein said ROM is a PXE-enabled ROM.

116 (currently amended). A method of maintaining a registry on a client computer having a local operating system and a network interface card, the method comprising the steps of:

receiving a boot request at a server computer from said client computer;  
providing ~~a registry checking~~ an attribute determination program to the client computer via the network interface card in response to said boot request, wherein said ~~registry checking~~ attribute determination program is configured to check said registry on said client computer prior to booting said local operating system and to provide a registry response to said server computer via said network interface card;  
receiving said registry response at said server from said ~~registry checking~~ attribute determination program;  
~~processing said registry response at said server to verify said registry on said client computer; and~~  
automatically selecting a set of instructions at said server based upon said registry response received from the attribute determination program, wherein the selected set of instructions comprises instructions for updating the ~~providing an updated~~ registry from said server to said client computer in response to said processing step[[;]] and for instructing said client computer to boot said local operating system after said ~~updated registry received from said server~~ registry is updated; and  
executing the set of selected instructions to thereby update the registry on the client computer prior to booting the local operating system on the client computer.